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EXAMINER	
THOMPSON, JAMES A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/814,500	HART ET AL.	
	Examiner	Art Unit	
	James A. Thompson'	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-118* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/27/07,2/20/07,11/6/06,9/29/06, 7/20/07.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 21 December 2006 have been fully considered but they are not persuasive.

Regarding page 16, lines 2-16: Applicant's present amendments to the claims have been fully addressed by the prior art rejections set forth below. Applicant's present arguments are addressed in the present Response.

Regarding page 16, line 18 to page 18, line 16: *Applicant argues* that Katsuo (USPN 5,721,883) and Motoyama (USPN 6,476,793 B1) are disparate references and that there is no teaching of suggestion to combine Katsuo and Motoyama.

Examiner replies that, firstly, both Katsuo and Motoyama both teach the processing, modification and output of multi-media image data. Katsuo performs such processing, modification and outputting using a plurality of parallel processors. The application of Motoyama modifies the parallel multi-media processing of Katsuo such that time-based (*e.g.*, video) data is processed and a user input is provided so that various processes, such as the determination of the amount of processing to be performed by each processor, can be set by the user. In both Katsuo and Motoyama, image data is input, processed, and output based on specific criteria. Katsuo provides for a more time-efficient manner of performing image processing (parallel processing), which is of particular benefit in processor intensive application such as the video processing taught by Motoyama. Motoyama provides user modification of parameters, which is applicable to the specification of the parameter relating to how much processing is to be performed on a given processor. So, Katsuo and Motoyama are clearly related to each other and are within the same field of endeavor. Furthermore, the motivations that one of ordinary skill in the art at the time of the invention would have had to combine the references is set forth in the previous office action, mailed 21 August 2006, and is also set forth in the prior art rejections below. The motivation for doing so would have been to provide a useful type of video processing apparatus (column 1, lines 60-64 of Motoyama). One of ordinary skill in the art at the time of the invention would easily have recognized the utility of being able to print directly from the processing device that performs multimedia image data processing. Further, the user interface taught by Motoyama enhances the ease with which process settings are performed. If a user has *a priori* knowledge of the computational capabilities of the processing device and the printer, such as through characteristics stated in a manual or simply through experience of use, then it is easier and more convenient to be able to simply input what the first and second processing amounts are, rather than

waiting for the parallel processing system to perform a set of configuration determinations before attempting to execute multimedia image data processing in parallel.

In addition to the motivations set forth specifically in the previous office action, it must be recognized that the use of user interfaces to set parameters is ubiquitous in the printing and computing arts. While a computational device, such as taught by Katsuo and Motoyama, can determine many variables and parameters (*e.g.*, gamma correction, base intensity level, white and black points, processing priority for particular computational processes) automatically, allowing a user the option to manually set parameters is generally recognized as advantageous and is applied in many areas of the image processing arts. For example, as can be seen on page 8 of Motoyama, various criteria are capable of being set by the user. While various schemes exist for performing many of the functions shown (such as determining if a document is text or photo, determining page size, *etc.*), Motoyama allows the user to set the variables.

Regarding page 18, line 18 to page 19, line 12: *Applicant argues* that Katsuo is no more relevant than the references Examiner has admitted were overcome by the amendments filed by Applicant on 05 June 2006.

Examiner replies that one of the requirements for a proper rejection under 35 USC §103(a) is that all the limitations must be taught or suggested by the cited prior art [see MPEP §2143]. With all respect, Applicant's suggestion that Katsuo is no more relevant than the previously cited references Jacobs (USPN 5,386,510) and Gopal ("Load Balancing in a Heterogeneous Computing Environment") is based on a generalization of the applied references, namely that all are related to parallel processing, and is not based on the specific teachings presented therein. Applicant's rather substantial amendments to the independent claims prior to said previous office action necessitated the application of new prior art.

Regarding page 19, line 14 to page 20, line 11: *Applicant argues* that Katsuo teaches away from combining Motoyama.

Examiner replies that, as with many examples (such as in Motoyama) of user selected processing *via* user interfaces, the user selection may not be maximally efficient, but provides the user with added flexibility. This is a usual and common effect of allowing a user interface, rather than forcing a user to accept whatever automatic determinations are made by the computational device(s). An additional advantage of allowing for a user interface is that, in certain circumstances, the algorithm by which an automated determination is made can be improper due to circumstances not predicted by the programmer who designed to algorithm, or due to information that is not automatically obtainable. For example, in parallel processing, temporary hardware issues (such as router issues with individual processors) can slow down one processor in an application that requires a heavy level of message passing. If the algorithm is

used to determine automatic distribution of processor loads assumes homogeneous message passing characteristics, then the automatic determination is *not* maximally efficient, even though the algorithm was assumed to be so. But, by allowing a user interface, better efficiency can be obtained through user tweaking based on user knowledge of the system defects.

Regarding page 20, line 13 to page 23, line 6: Applicant's remaining arguments are based on the alleged invalidity of the combination of Katsuo and Motoyama. Since Examiner has shown that the combination is valid, the remaining claims cannot be considered allowable merely due to the same reasoning or due to their respective dependencies.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 20-21, 40, 45 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639).

Regarding claim 1: Katsuo discloses a system (figure 1 of Katsuo) comprising:

- an interface (figure 1(10) of Katsuo) for receiving input (column 5, lines 25-33 of Katsuo – input with respect to the particular cases, which is needed to compile the parallel program code), the input specifying a multimedia function to perform on the media (column 5, lines 33-44 of Katsuo) and including a first amount of processing to be performed by a first processing device and a second amount of processing to be performed by a second processing device (column 4, lines 22-30 and column 6, lines 40-49 of Katsuo). The image processing is distributed to the available processors (column 4, lines 22-30 of Katsuo) based at least partly on the configuration of the overall parallel processing system (column 6, lines 40-49 of Katsuo).
- a first processing device (figure 1(one of the Arithmetic Processors) of Katsuo), communicatively coupled to the interface (as can clearly be seen in figure 1 of Katsuo), adapted to perform the first

amount of processing indicated by the received input (column 4, lines 22-30 of Katsuo) in order to perform the specified multimedia function on the media (figure 6 and column 9, lines 25-40 of Katsuo).

- a second processing device (figure 1(another one of the Arithmetic Processors) of Katsuo) adapted to perform the second amount of processing indicated by the received input (column 4, lines 22-30 of Katsuo) in order to perform the specified multimedia function on the media (figure 6 and column 9, lines 25-40 of Katsuo).

Katsuo does not disclose expressly that said media data is specifically *time-based* media data; that said interface is a *user interface* (and thus the received input is *user input*); that said first processing device is a printing system, wherein said printing system instructs the processing device to perform the second amount of processing indicated by the received input; and that the processing device performs the second amount of processing *in response to instruction from the printer.*

Motoyama discloses a printing system (figure 7 and column 2, lines 24-25 of Motoyama) for performing a multimedia function (column 3, lines 41-46 of Motoyama) on time-based media data (column 3, lines 29-34 and lines 47-49 of Motoyama); and a user interface (figure 8 and column 2, lines 26-27 of Motoyama) for receiving user selections of processing parameters (column 2, lines 50-55 of Motoyama).

Katsuo and Motoyama are combinable because they are from the same field of endeavor, namely processing multimedia data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically process time-based media data on a printing system, as taught by Motoyama, said processor on said printing device being part of the overall parallel processing system taught by Katsuo. Thus, the first processing device taught by Katsuo is the printing system taught by Motoyama. The second processing device taught by Katsuo then simply becomes the processing device. The motivation for doing so would have been to provide a useful type of video processing apparatus (column 1, lines 60-64 of Motoyama). One of ordinary skill in the art at the time of the invention would easily have recognized the utility of being able to print directly from the processing device that performs multimedia image data processing. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a user interface for setting processing parameters, as taught by Motoyama, wherein said processing parameters (received by the user input) include the amount of processing to be performed by the printer and the processing device. The suggestion for doing so would have been that the user interface taught by Motoyama enhances the ease with which process settings are performed. Furthermore, if a user already has *a priori* knowledge of the computational capabilities of the

processing device and the printer, such as through characteristic stated in a manual or simply through experience of use, then it is easier and more convenient to be able to simply input what the first and second processing amounts are, rather than waiting for the parallel processing system to perform a set of configuration determinations before attempting to execute multimedia image data processing in parallel. Therefore, it would have been obvious to combine Motoyama with Katsuo.

Katsuo in view of Motoyama does not disclose expressly that said printing system instructs the processing device to perform the second amount of processing indicated by the received input; and that the processing device performs the second amount of processing *in response to instruction from the printer.*

Poon discloses a master processor (page 635, figure 4 ("master") of Poon) which instructs a slave processing device (page 635, figure 4("slave 1") of Poon) to perform an amount of processing indicated by received input (page 635, left column, lines 1-10 of Poon); and the slave processing device performs the amount of processing in response to instruction from the master processor (page 635, left column, lines 1-10 of Poon).

Katsuo in view of Motoyama is combinable with Poon because they are from the same field of endeavor, namely parallel processing of digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a master-slave configuration, as taught by Poon, instead of the parallel configuration taught by Katsuo, wherein the printer is the master processor and the processing device is one of the slave processors. Thus, by combination, said printing system instructs the processing device to perform the second amount of processing indicated by the received input; and that the processing device performs the second amount of processing in response to instruction from the printer. The motivation for doing so would have been to avoid much of the blocking due to message-passing communication (page 635, left column, lines 14-18 of Poon), thus improving the parallel processing performance. Therefore, it would have been obvious to combine Poon with Katsuo in view of Motoyama to obtain the invention as specified in claim 1.

Regarding claim 2: Katsuo discloses that the processing device includes the interface (figure 1 (10) and column 5, lines 25-33 of Katsuo – input with respect to the particular cases, which is needed to compile the parallel program code). As set forth above in the arguments regarding claim 1, said interface is a user interface.

Further regarding claim 3: Motoyama discloses that the printer includes the user interface (figure 8 and column 2, lines 50-55 of Motoyama).

Regarding claim 4: Katsuo discloses that the interface is on a device separate from the processing device and the printer (figure 1(10) and column 5, lines 25-33 of Katsuo). Since the interface is a host computer, the interface can be considered separate from both the processing device and the printer. Further, as set forth above in the arguments regarding claim 1, said interface is a user interface.

Further regarding claims 5/2-5/4: Motoyama discloses that the user interface displays status information about the performance of the multimedia function (figure 8(809) and column 3, lines 23-28 of Motoyama).

Regarding claim 6: Katsuo discloses that the processing device is a personal computer (column 4, lines 8-15 of Katsuo). Each arithmetic processor receives and executes computer program code. Thus, the processing device (second arithmetic processor) is a personal computer.

Further regarding claim 20: Motoyama discloses that the multimedia function includes selecting a range of video data in response to received input from the user (figure 8(808, 816) and column 3, lines 13–15 and lines 20-23 of Motoyama).

Further regarding claim 21: Motoyama discloses that the multimedia function includes applying a video event detection function to the time-based media data (column 3, lines 29-38 of Motoyama).

Further regarding claim 40: Motoyama discloses that the multimedia function includes applying a visual inspection function to the time-based media data (figures 10A and 10B; and column 2, lines 55-59 of Motoyama).

Further regarding claim 45: Motoyama discloses that the user interface is configured to allow a user to control a multimedia server (column 3, lines 2-5 and lines 13-19 of Motoyama).

Further regarding claim 55: Motoyama discloses that the processor is further configured to display results of the multi-media function on the display of the user interface (figure 8 (809) and column 3, lines 23-28 of Motoyama).

4. Claims 7-9, 12-13, 23-28, 47-48, 67 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Chino (US Patent 6,118,888).

Regarding claim 7: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes selecting a range of audio data in response to received input from the user.

Chino discloses selecting a range of audio data in response to received input from the user (column 14, lines 8-18 of Chino). Only the audio data that is intended to be input by the user is input in response to the appropriate user input, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to allow the user to input only a specifically desired range of audio data, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 7.

Regarding claim 12: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a sound source localization function to the time-based media data.

Chino discloses applying a sound source localization function to time-based media data (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound source localization is determined.

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a sound source localization function to the time-based media data, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 12.

Regarding claims 8 and 13: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying audio event detection to the time-based media data.

Chino discloses applying audio event detection to the time-based media data (column 14, lines 8-18 of Chino). The system detects when audio data is intended to be input by the user, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events,

as taught by Chino. The motivation for doing so would have been to pre-vent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claims 8 and 13.

Regarding claim 9: Katsuo in view of Motoyama and Poon does not disclose expressly that the multimedia function includes determining a confidence level associated with the audio event detection.

Chino discloses that an audio event is detected (column 14, lines 8-11 of Chino) based on specific criteria that are to be met to the satisfaction of a computer automated system (column 14, lines 11-19 of Chino). Thus, a confidence level associated with the audio event detection is determined.

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events based on a determined confidence level, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 9.

Regarding claim 23: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 23.

Further regarding claim 24: Chino discloses applying a clustering function to the time-based media data to merge multiple instances of a face into a representative image (column 26, lines 1-12 of Chino).

Regarding claim 25: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 25.

Regarding claim 26: Katsuo in view of Motoyama and Poon does not disclose expressly that the multimedia function includes applying an optical character recognition function to the time-based media data.

Chino discloses applying an optical character recognition function to time-based media data (figure 3(102j) and column 7, lines 14–18 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply an optical character recognition function to time-based media data, as taught by Chino. The suggestion for doing so would have been that character recognition from an electronic pen is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 26.

Further regarding claim 27: Chino discloses applying a clustering function to the time-based media data to merge similar results of the optical character recognition (column 7, lines 15-21 of Chino). The particular language input by the user, such as German, Russian and Chinese, which use different character sets, is detected. The particular language determines the cluster of characters to use in optical character recognition (column 7, lines 15-21 of Chino).

Regarding claim 28: Katsuo in view of Motoyama and Poon does not disclose expressly that the multimedia function includes applying a motion analysis function to the time-based media data.

Chino discloses applying a motion analysis function to time-based media data (figure 3(102f) and column 7, lines 33-38 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a motion analysis function to time-based media data, as taught by Chino. The suggestion for doing so would have been that detection of a user's motion and gestures is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 28.

Regarding claim 47: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control audio sound localization hardware.

Chino discloses controlling audio sound localization hardware (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound localization is determined.

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama to allow a user to control audio sound localization hardware, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 47.

Regarding claim 48: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control motion detection hardware.

Chino discloses controlling motion detection hardware (figure 3(102f) and column 7, lines 33-38 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama to allow a user to control motion detection hardware, as taught by Chino. The suggestion for doing so would have been that detection of a user's motion and gestures is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-

11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 48.

Regarding claim 67: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is audio sound localization hardware.

Chino discloses controlling as an output device audio sound localization hardware (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound localization is determined.

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to output audio data through audio sound localization hardware, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 67.

Regarding claim 79: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is hardware for capturing data from an electronic pen.

Chino discloses controlling as an output device hardware for capturing data from an electronic pen (figure 3(102i) and column 7, lines 14-16 of Chino).

Katsuo in view of Motoyama and Poon is combinable with Chino because they are from the same field of endeavor, namely the control and processing of digital data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use hardware for capturing data from an electronic pen, as taught by Chino. The suggestion for doing so would have been that an electronic pen is simply another useful output device that provides digital data a user may wish to obtain (figure 3 and column 6, lines 66-67 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 79.

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Kametani (US Patent 5,091,948).

Regarding claim 10: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a speaker segmentation function to the time-based media data.

Kametani discloses applying a speaker segmentation function to time-based media data (figure 3d and column 5, lines 5–9 and lines 29-33 of Kametani).

Katsuo in view of Motoyama and Poon is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker segmentation function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker segmentation function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 10.

Further regarding claims 11/1 and 11/10: Kametani discloses applying a speaker recognition function to said time-based media data (column 5, lines 29-35 of Kametani).

6. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Halverson (US Patent Application Publication 2002/0101513 A1).

Regarding claim 14: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a speech recognition function to said time-based media data.

Halverson discloses applying a speech recognition function to time-based media data (para. 24, lines 2-5 and para. 25, lines 21-23 of Halverson).

Katsuo in view of Motoyama and Poon is combinable with Halverson because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speech recognition

function, as taught by Halverson. The motivation for doing so would have been that speech is a useful and natural form of human input (para. 25, lines 11–14 of Halverson). Therefore, it would have been obvious to combine Halverson with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 14.

Further regarding claim 15: Halverson discloses applying a profile analysis function to the time-based media data (para. 23, lines 4-7 of Halverson).

7. Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Halverson (US Patent Application Publication 2002/0101513 A1), and Chino (US Patent 6,118,888).

Regarding claim 16: Katsuo in view of Motoyama, Poon and Halverson does not disclose expressly that said multimedia function includes applying audio event detection to the time-based media data.

Chino discloses applying audio event detection to the time-based media data (column 14, lines 8-18 of Chino). The system detects when audio data is intended to be input by the user, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama, Poon and Halverson is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Halverson to obtain the invention as specified in claim 16.

Regarding claim 19: Katsuo in view of Motoyama, Poon and Halverson does not disclose expressly that said multimedia function includes applying a sound source localization function to the time-based media data.

Chino discloses applying a sound source localization function to time-based media data (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound source localization is determined.

Katsuo in view of Motoyama, Poon and Halverson is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a sound source localization function to the time-based media data, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Halverson to obtain the invention as specified in claim 19.

8. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Halverson (US Patent Application Publication 2002/0101513 A1), Chino (US Patent 6,118,888), and Kametani (US Patent 5,091,948).

Regarding claim 17: Katsuo in view of Motoyama, Poon, Halverson and Chino does not disclose expressly that said multimedia function includes applying a speaker recognition function to the time-based media data.

Kametani discloses applying a speaker recognition function to said time-based media data (column 5, lines 29-35 of Kametani).

Katsuo in view of Motoyama, Poon, Halverson and Chino is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker recognition function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker recognition function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama, Poon, Halverson and Chino to obtain the invention as specified in claim 17.

Regarding claim 18: Katsuo in view of Motoyama, Poon, Halverson and Chino does not disclose expressly that said multimedia function includes applying a speaker segmentation function to the time-based media data.

Kametani discloses applying a speaker segmentation function to time-based media data (figure 3d and column 5, lines 5–9 and lines 29-33 of Kametani).

Katsuo in view of Motoyama, Poon, Halverson and Chino is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker segmentation function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker segmentation function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama, Poon, Halverson and Chino to obtain the invention as specified in claim 18.

9. Claims 22 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Krumm (US Patent 6,611,622 B1).

Regarding claim 22: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a color histogram analysis function to said time-based media data.

Krumm discloses applying a color histogram analysis function to time-based media data (figure 2(202) and column 8, lines 46-47 of Krumm).

Katsuo in view of Motoyama and Poon is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a color histogram analysis function to the time-based media data, as taught by Krumm. The motivation for doing so would have been to better identify people or objects in scenes generated subsequent to a model scene (column 8, lines 53-58 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 22.

Regarding claim 30: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a foreground/background segmentation function to said time-based media data.

Krumm discloses applying a foreground/background segmentation function to time-based media data (column 10, lines 13-15 of Krumm).

Katsuo in view of Motoyama and Poon is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a foreground/background segmentation function to the time-based media data, as taught by Krumm. The motivation for doing so would have been that the foreground segment is needed to further segment for the purpose of identifying people and objects in an image (column 10, lines 15-18 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 30.

Regarding claim 31: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a scene segmentation function to said time-based media data.

Krumm discloses applying a scene segmentation function to time-based media data (column 10, lines 15-18 of Krumm).

Katsuo in view of Motoyama and Poon is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a scene segmentation function to the time-based media data, as taught by Krumm. The motivation for doing so would have been that segmenting the foreground scene is needed to identify people and objects in an image (column 10, lines 15-18 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 31.

10. Claim 29/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Kim (US Patent 6,594,377 B1).

Regarding claim 29/1: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a distance estimation function to said time-based media data.

Kim discloses applying a distance estimation to image media data (column 3, lines 33-36 of Kim).

Katsuo in view of Motoyama and Poon is combinable with Kim because they are from the same field of endeavor, namely the control and processing of media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply distance estimation, as taught by Kim,

to the time-based media data taught by Motoyama. The motivation for doing so would have been to determine if the user, or a relevant part of the user, is within the required operational range (column 4, lines 28-34 of Kim). Therefore, it would have been obvious to combine Kim with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 29/1.

11. Claim 29/28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Chino (US Patent 6,118,888), and Kim (US Patent 6,594,377 B1).

Regarding claim 29/28: Katsuo in view of Motoyama, Poon and Chino does not disclose expressly that said multimedia function includes applying a distance estimation function to said time-based media data.

Kim discloses applying a distance estimation to image media data (column 3, lines 33-36 of Kim).

Katsuo in view of Motoyama, Poon and Chino is combinable with Kim because they are from the same field of endeavor, namely the control and processing of media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply distance estimation, as taught by Kim, to the time-based media data taught by Motoyama. The motivation for doing so would have been to determine if the user, or a relevant part of the user, is within the required operational range (column 4, lines 28-34 of Kim). Therefore, it would have been obvious to combine Kim with Katsuo in view of Motoyama, Poon and Chino to obtain the invention as specified in claim 29/28.

12. Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Krumm (US Patent 6,611,622 B1), and Chino (US Patent 6,118,888).

Regarding claim 32: Katsuo in view of Motoyama, Poon and Krumm does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama, Poon and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Krumm to obtain the invention as specified in claim 32.

Regarding claim 33: Katsuo in view of Motoyama, Poon and Krumm does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama, Poon and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Krumm to obtain the invention as specified in claim 33.

Regarding claim 34: Katsuo in view of Motoyama, Poon and Krumm does not disclose expressly that the multimedia function includes applying an optical character recognition function to the time-based media data.

Chino discloses applying an optical character recognition function to time-based media data (figure 3(102j) and column 7, lines 14–18 of Chino).

Katsuo in view of Motoyama, Poon and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a per-son of ordinary skill in the art to apply an optical character recognition function to time-based media data, as taught by Chino. The suggestion for doing so would have been that character recognition from an electronic pen is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore,

it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Krumm to obtain the invention as specified in claim 34.

Regarding claim 35: Katsuo in view of Motoyama, Poon and Krumm does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama, Poon and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Krumm to obtain the invention as specified in claim 35.

Regarding claim 36: Katsuo in view of Motoyama, Poon and Krumm does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama, Poon and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Krumm to obtain the invention as specified in claim 36.

13. Claims 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Gerber (US Patent 5,568,406).

Regarding claim 37: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying an automobile recognition function to said time-based media data.

Gerber discloses applying an automobile recognition function to time-based media data (column 8, lines 42-45 of Gerber).

Katsuo in view of Motoyama and Poon is combinable with Gerber because they are from the same field of endeavor, namely the control and processing of time-based image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply an automobile recognition function to said time-based media data, as taught by Gerber. The motivation for doing so would have been to determine from the time-based media data whether or not the automobile in the time-based media data is stolen (column 8, lines 45-46 of Gerber). Therefore, it would have been obvious to combine Gerber with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 37.

Regarding claim 39: Katsuo in view of Motoyama and Poon does not disclose expressly that said multimedia function includes applying a license plate recognition function to said time-based media data.

Gerber discloses applying a license plate recognition function to time-based media data (column 3, lines 42-47 and lines 63-64 of Gerber).

Katsuo in view of Motoyama and Poon is combinable with Gerber because they are from the same field of endeavor, namely the control and processing of time-based image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a license plate recognition function to said time-based media data, as taught by Gerber. The motivation for doing so would have been to determine from the time-based media data whether or not the automobile in the time-based media data is stolen (column 1, line 66 to column 2, line 2 of Gerber). Therefore, it would have been obvious to combine Gerber with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 39.

14. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Gerber (US Patent 5,568,406), and Chino (US Patent 6,118,888).

Regarding claim 38: Katsuo in view of Motoyama, Poon and Gerber does not disclose expressly that the multimedia function includes applying a motion analysis function to the time-based media data.

Chino discloses applying a motion analysis function to time-based media data (figure 3(102f) and column 7, lines 33-38 of Chino).

Katsuo in view of Motoyama, Poon and Gerber is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a motion analysis function to time-based media data, as taught by Chino. The suggestion for doing so would have been that detection of a user's motion and gestures is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama, Poon and Gerber to obtain the invention as specified in claim 38.

15. Claims 41-44, 49-50, 52, 56-63, 68, 70, 78 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Hymel (US Patent Application Publication 2003/0220988 A1).

Regarding claims 41-44, 49-50 and 52: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control a compact disc (CD) device, a digital video disc (DVD) device, an audio tape device, a video tape device, a MIDI player, a cellular telephone, and/or a world wide web display.

Hymel discloses a user interface configured to allow a user to control (para. 10, lines 1-5 of Hymel) a compact disc (CD) device (para. 10, lines 14-15 and lines 19-20 of Hymel), a digital video disc (DVD) device (para. 10, lines 14-15 and lines 20-21 of Hymel), an audio tape device (audio tape device is a type of audio player, MP3 player is merely an example) (para. 10, lines 14-15 and line 19 of Hymel), a

video tape device (digital camcorder, which, as is well-known in the art, uses a digital video (DV) cassette tape) (para. 10, lines 14-15 and line 20 of Hymel), a MIDI player (MIDI player is a type of audio player, MP3 player is merely an example) (para. 10, lines 14-15 and line 19 of Hymel), a cellular telephone (para. 10, lines 14-15 of Hymel), and/or a world wide web display (figure 1(130) and para. 11, lines 1-10 of Hymel).

Katsuo in view of Motoyama and Poon is combinable with Hymel because they are from similar problem solving areas, namely the control of data storage and output. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama so that the user interface allows a user to control a compact disc (CD) device, a digital video disc (DVD) device, an audio tape device, a video tape device, a MIDI player, a cellular telephone, and/or a world wide web display, as taught by Hymel. The motivation for doing so would have been to allow a user to connect a variety of different types of peripheral devices to an overall system, thus allowing the user to perform a variety of functions (para. 2, lines 1-6 of Hymel). Therefore, it would have been obvious to combine Hymel with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claims 41-44, 49-50 and 52.

Regarding claims 56-63, 68, 70, 78 and 80: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is a DVD drive, CD drive, audio tape drive, video cassette device, removable media device, embedded audio recorder, embedded video recorder, non-volatile storage device, cellular telephone, world-wide web display, hardware for performing audio capture, and/or a disposable media writer.

Hymel discloses a user interface configured to allow a user to control as an output device (para. 10, lines 1-5 of Hymel) a DVD drive (para. 10, lines 14-15 and lines 20-21 of Hymel), CD drive (para. 10, lines 14-15 and lines 19-20 of Hymel), audio tape drive (audio tape drive is a type of audio player, MP3 player is merely an example) (para. 10, lines 14-15 and line 19 of Hymel), video cassette device (digital camcorder, which, as is well-known in the art, uses a digital video (DV) cassette tape) (para. 10, lines 14-15 and line 20 of Hymel), removable media device (the compact discs used in compact disc devices are well-known to be removable media devices) (para. 10, lines 14-15 and lines 19-20 of Hymel), embedded (para. 10, lines 22-26 of Hymel) audio recorder (para. 10, lines 14-15 and line 19 of Hymel), embedded (para. 10, lines 22-26 of Hymel) video recorder (para. 10, lines 14-15 and line 20 of Hymel), non-volatile storage device (compact disc devices and digital video disc devices are well-known to be non-volatile storage media devices) (para. 10, lines 14-15 and lines 19-21 of Hymel), cellular telephone (para. 10, lines 14-15 of Hymel), world-wide web display (figure 1 (130) and para. 11, lines 1-10 of

Hymel), hardware for performing audio capture (as is well-known in the art, part of the function of a digital camcorder is to capture audio signals, along with the video) (para. 10, lines 14-15 and line 20 of Hymel), and/or a disposable media writer (compact discs (CD-R's) and digital video discs (DVD±R's) are well-known to be disposable media) (para. 10, lines 14-15 and lines 19-21 of Hymel).

Katsuo in view of Motoyama and Poon is combinable with Hymel because they are from similar problem solving areas, namely the control of data storage and output. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the processing device be a DVD drive, CD drive, audio tape drive, video cassette device, removable media device, embedded audio recorder, embedded video recorder, non-volatile storage device, cellular telephone, world-wide web display, hardware for performing audio capture, and/or a disposable media writer, as taught by Hymel. The motivation for doing so would have been to allow a user to connect a variety of different types of peripheral devices to an overall system, thus allowing the user to perform a variety of functions (para. 2, lines 1-6 of Hymel). Therefore, it would have been obvious to combine Hymel with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claims 56-63, 68, 70, 78 and 80.

16. Claims 46, 54, 64-66 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Stevens (US Patent Application Publication 2002/0010641 A1).

Regarding claims 46 and 54: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control encryption hardware and/or a radio receiver.

Stevens discloses a user interface (figure 3(104) of Stevens) configured to allow a user to control encryption hardware (para. 54, lines 1-9 of Stevens) and a radio receiver (figure 3(110) and para. 36, lines 1-8 of Stevens).

Katsuo in view of Motoyama and Poon is combinable with Stevens because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama to allow a user to control encryption hardware and a radio receiver, as taught by Stevens. The motivation for doing so would have been to allow users to retrieve desired distributions of audio and video data over a controlled broadcast (para. 4, lines 1-5 of Stevens).

Therefore, it would have been obvious to combine Stevens with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claims 46 and 54.

Regarding claims 64-66 and 74: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is an embedded multimedia server, audio encryption hardware, video encryption hardware, and/or a satellite radio receiver.

Stevens discloses controlling as an output device an embedded multimedia server (para. 53, lines 6-10 of Stevens), audio encryption hardware (para. 54, lines 1-4 and para. 57, lines 3-4 of Stevens), video encryption hardware (para. 54, lines 1-4 of Stevens), and/or a satellite radio receiver (para. 36, lines 1-6 of Stevens).

Katsuo in view of Motoyama and Poon is combinable with Stevens because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the processing device be an embedded multimedia server, audio encryption hardware, video encryption hardware, and/or a satellite radio receiver, as taught by Stevens. The motivation for doing so would have been to allow users to retrieve desired distributions of audio and video data over a controlled broadcast (para. 4, lines 1-5 of Stevens). Therefore, it would have been obvious to combine Stevens with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claims 64-66 and 74.

17. Claims 51, 69, 71-73 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), Stevens (US Patent Application Publication 2002/0010641 A1), and McCarthy (US Patent 6,296,693 B1).

Regarding claim 51: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control a two-way radio.

Stevens discloses a user interface (figure 3(104) of Stevens) configured to allow a user to control a radio receiver (figure 3(110) and para. 36, lines 1-8 of Stevens).

Katsuo in view of Motoyama and Poon is combinable with Stevens because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama to allow a user to control a radio receiver, as taught by Stevens. The

motivation for doing so would have been to allow users to retrieve desired distributions of audio and video data over a controlled broadcast (para. 4, lines 1-5 of Stevens). Therefore, it would have been obvious to combine Stevens with Katsuo in view of Motoyama and Poon.

Katsuo in view of Motoyama, Poon and Stevens does not disclose expressly that said radio is specifically a two-way radio.

McCarthy discloses using a two-way (CB) radio (column 7, lines 13-16 and lines 21-23 of McCarthy).

Katsuo in view of Motoyama, Poon and Stevens is combinable with McCarthy because they are from similar problem solving areas, namely the control of data communication hardware. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide for user control of a radio, as taught by Stevens, wherein said radio is specifically a two-way radio, as taught by McCarthy. The motivation for doing so would have been to provide the user with means of personal communication. Therefore, it would have been obvious to combine McCarthy with Katsuo in view of Motoyama, Poon and Stevens to obtain the invention as specified in claim 51.

Regarding claims 69, 71-73 and 76: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is a two-way radio, a radio receiver for receiving AM signals, a radio receiver for receiving FM signals, a radio receiver for receiving short wave radio signals, and/or an emergency alert monitor for receiving emergency broadcast system alerts.

Stevens discloses controlling as an output device a radio receiver (para. 36, lines 1-6 of Stevens).

Katsuo in view of Motoyama and Poon is combinable with Stevens because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the processing device be a radio receiver, as taught by Stevens. The motivation for doing so would have been to allow users to retrieve desired distributions of audio data over a controlled broadcast (para. 4, lines 1-5 of Stevens). Therefore, it would have been obvious to combine Stevens with Katsuo in view of Motoyama and Poon.

Katsuo in view of Motoyama, Poon and Stevens does not disclose expressly that said radio receiver is a two-way radio, a radio receiver for receiving AM signals, a radio receiver for receiving FM signals, a radio receiver for receiving short wave radio signals, and/or an emergency alert monitor for receiving emergency broadcast system alerts.

McCarthy discloses output devices including a two-way (CB) radio (column 7, lines 13-16 and lines 21-23 of McCarthy), a radio receiver for receiving AM signals (column 7, lines 13-16 and lines 20-21 of McCarthy), a radio receiver for receiving FM signals (column 7, lines 13-16 and lines 20-21 of

McCarthy), a radio receiver for receiving short wave radio signals (column 7, lines 13-16 and lines 21-23 of McCarthy), and/or an emergency alert monitor for receiving emergency broadcast system alerts (column 7, lines 13-16 and lines 18-20 of McCarthy).

Katsuo in view of Motoyama, Poon and Stevens is combinable with McCarthy because they are from similar problem solving areas, namely the control of data communication hardware. At the time of the invention, it would have been obvious to a per-son of ordinary skill in the art to provide for user control of a radio, as taught by Stevens, wherein said radio is specific-ally a two-way radio, a radio receiver for receiving AM signals, a radio receiver for receiving FM signals, a radio receiver for receiving short wave radio signals, and/or an emergency alert monitor for receiving emergency broadcast system alerts, as taught by McCarthy. The motivation for doing so would have been to provide the user with means of personal communication. Therefore, it would have been obvious to combine McCarthy with Katsuo in view of Motoyama, Poon and Stevens to obtain the invention as specified in claims 69, 71-73 and 76.

18. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Wedekind (US Patent 5,115,967).

Regarding claim 53: Katsuo in view of Motoyama and Poon does not disclose expressly that said user interface is configured to allow a user to control a climate sensor.

Wedekind discloses computer control (column 4, lines 53-58 of Wedekind) of a climate sensor (column 5, lines 3-9 of Wedekind).

Katsuo in view of Motoyama and Poon is combinable with Wedekind because they are from the same field of endeavor, namely the control and processing of time-based data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the user interface taught by Motoyama to allow a user to control a climate sensor, as taught by Wedekind. The motivation for doing so would have been to control the overall climate of the room or building in which the printer system user is located. Therefore, it would have been obvious to combine Wedekind with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 53.

19. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Rowe (US Patent Application Publication 2001/0003846 A1).

Regarding claim 75: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is a weather alert receiver.

Rowe discloses controlling as an output device a weather alert receiver (para. 62, lines 3-6 of Rowe).

Katsuo in view of Motoyama and Poon is combinable with Rowe because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a weather alert receiver as an output device, as taught by Rowe. The suggestion for doing so would have been that weather alert data is simply another form of useful multi-media data that a user may wish to obtain. Therefore, it would have been obvious to combine Rowe with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 75.

20. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Poon ("Performance Analysis of Median Filtering on Meiko™ – A Distributed Multiprocessor System", by K.M. Poon and N.H.C. Yung, *IEEE First International Conference on Algorithms and Architectures for Parallel Processing*, pages 631-639), and Abgrall (US Patent 6,373,498 B1).

Regarding claim 77: Katsuo in view of Motoyama and Poon does not disclose expressly that the processing device is a weather alert receiver.

Abgrall discloses controlling as an output device hardware for performing VGA screen captures (column 12, lines 6-8 of Abgrall).

Katsuo in view of Motoyama and Poon is combinable with Abgrall because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use hardware to perform VGA screen captures, as taught by Abgrall. The suggestion for doing so would have been that a VGA screen capture is simply another form of useful multi-media data that a user may wish to obtain.

Therefore, it would have been obvious to combine Abgrall with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 77.

21. Claims 81-84, 98-99 and 118 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1)

Regarding claim 81: Katsuo discloses a method (figure 2 of Katsuo) comprising:

- receiving media data from a media source (column 4, lines 5-8 of Katsuo).
- receiving input (column 5, lines 25-33 of Katsuo – input with respect to the particular cases, which is needed to compile the parallel program code), the input specifying a multimedia function to perform on the media (column 5, lines 33-44 of Katsuo), an amount of processing to be performed by a first processing device, and an amount of processing to be performed by a second processing device (column 4, lines 22-30 and column 6, lines 40-49 of Katsuo). The image processing is distributed to the available processors (column 4, lines 22-30 of Katsuo) based at least partly on the configuration of the overall parallel processing system (column 6, lines 40-49 of Katsuo).
- determining from the input a portion of the processing to be allocated to the first processing device and a portion of the processing to be allocated to the second processing device (column 4, lines 22-30 and column 6, lines 40-49 of Katsuo).
- allocating the determined processing portions to the first processing device and the second processing device based on the received input (column 4, lines 22-30 and column 6, lines 40-49 of Katsuo).
- performing, by the first processing device, the allocated portion of processing (column 4, lines 22-30 of Katsuo) to carry out the specified multimedia function (figure 6 and column 9, lines 25-40 of Katsuo).
- performing, by the second processing device, the allocated portion of processing (column 4, lines 22-30 of Katsuo) to carry out the specified multimedia function (figure 6 and column 9, lines 25-40 of Katsuo).
- producing an electronic output associated with the processed media data (column 13, lines 20-32 of Katsuo). Stored computer data results are a form of electronic output.

Katsuo does not disclose expressly that said media data is specifically *time-based* media data; that said input (and received input) is *user input*; that said first processing device is a printer; and producing output on the printer associated with the processed media data.

Motoyama discloses a printer (figure 7 and column 2, lines 24-25 of Motoyama) for performing a multimedia function (column 3, lines 41-46 of Motoyama) on time-based media data (column 3, lines 29-34 and lines 47-49 of Motoyama); a user interface (figure 8 and column 2, lines 26-27 of Motoyama) for receiving user selections of processing parameters (column 2, lines 50-55 of Motoyama); and producing output on the printer associated with the processed media data (column 3, lines 23-28 of Motoyama).

Katsuo and Motoyama are combinable because they are from the same field of endeavor, namely processing multimedia data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically process time-based media data on a printer, as taught by Motoyama, said processor on said printer being part of the overall parallel processing system taught by Katsuo. Thus, the first processing device taught by Katsuo is the printer taught by Motoyama. The second processing device taught by Katsuo then simply becomes the processing device. The motivation for doing so would have been to provide a useful type of video processing apparatus (column 1, lines 60-64 of Motoyama). One of ordinary skill in the art at the time of the invention would easily have recognized the utility of being able to print directly from the processing device that performs multimedia image data processing. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a user interface for setting processing parameters via user input, as taught by Motoyama, wherein said processing parameters include the amount of processing to be performed by the printer and the processing device. The suggestion for doing so would have been that the user interface taught by Motoyama enhances the ease with which process settings are performed. Furthermore, if a user already has *a priori* knowledge of the computational capabilities of the processing device and the printer, such as through characteristic stated in a manual or simply through experience of use, then it is easier and more convenient to be able to simply input what the first and second processing amounts are, rather than waiting for the parallel processing system to perform a set of configuration determinations before attempting to execute multimedia image data processing in parallel. Therefore, it would have been obvious to combine Motoyama with Katsuo to obtain the invention as specified in claim 81.

Further regarding claim 82: Motoyama discloses that the user input is received at the printer (figure 8 and column 2, lines 50-55 of Motoyama).

Regarding claim 83: Katsuo discloses that the user input is received at the processing device (figure 1(10) and column 5, lines 25-33 of Katsuo – input with respect to the particular cases, which is needed to compile the parallel program code). As set forth above in the arguments regarding claim 81, said input is user input.

Regarding claim 84: Katsuo discloses that the processing device is a personal computer (column 4, lines 8-15 of Katsuo). Each arithmetic processor receives and executes computer program code. Thus, the processing device (second arithmetic processor) is a personal computer.

Further regarding claim 98: Motoyama discloses that the multimedia function includes selecting a range of video data in response to received input from the user (figure 8(808, 816) and column 3, lines 13–15 and lines 20-23 of Motoyama).

Further regarding claim 99: Motoyama discloses that the multimedia function includes applying a video event detection function to the time-based media data (column 3, lines 29-38 of Motoyama).

Further regarding claim 118: Motoyama discloses that the multimedia function includes applying a visual inspection function to the time-based media data (figures 10A and 10B; and column 2, lines 55-59 of Motoyama).

22. Claims 85-87, 90-91 and 101-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Chino (US Patent 6,118,888).

Regarding claim 85: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes selecting a range of audio data in response to received input from the user.

Chino discloses selecting a range of audio data in response to received input from the user (column 14, lines 8-18 of Chino). Only the audio data that is intended to be input by the user is input in response to the appropriate user input, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to allow the user to input only a specifically desired range of audio data, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 85.

Regarding claim 90: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a sound source localization function to the time-based media data.

Chino discloses applying a sound source localization function to time-based media data (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound source localization is determined.

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a sound source localization function to the time-based media data, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Poon to obtain the invention as specified in claim 90.

Regarding claims 86 and 91: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying audio event detection to the time-based media data.

Chino discloses applying audio event detection to the time-based media data (column 14, lines 8-18 of Chino). The system detects when audio data is intended to be input by the user, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claims 86 and 91.

Regarding claim 87: Katsuo in view of Motoyama does not disclose expressly that the multimedia function includes determining a confidence level associated with the audio event detection.

Chino discloses that an audio event is detected (column 14, lines 8-11 of Chino) based on specific criteria that are to be met to the satisfaction of a computer automated system (column 14, lines 11-19 of Chino). Thus, a confidence level associated with the audio event detection is determined.

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events based on a determined confidence level, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would

have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 87.

Regarding claim 101: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 101.

Further regarding claim 102: Chino discloses applying a clustering function to the time-based media data to merge multiple instances of a face into a representative image (column 26, lines 1-12 of Chino).

Regarding claim 103: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 103.

Regarding claim 104: Katsuo in view of Motoyama does not disclose expressly that the multimedia function includes applying an optical character recognition function to the time-based media data.

Chino discloses applying an optical character recognition function to time-based media data (figure 3(102j) and column 7, lines 14–18 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply an optical character recognition function to time-based media data, as taught by Chino. The suggestion for doing so would have been that character recognition from an electronic pen is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 104.

Further regarding claim 105: Chino discloses applying a clustering function to the time-based media data to merge similar results of the optical character recognition (column 7, lines 15-21 of Chino). The particular language input by the user, such as German, Russian and Chinese, which use different character sets, is detected. The particular language determines the cluster of characters to use in optical character recognition (column 7, lines 15-21 of Chino).

Regarding claim 106: Katsuo in view of Motoyama does not disclose expressly that the multimedia function includes applying a motion analysis function to the time-based media data.

Chino discloses applying a motion analysis function to time-based media data (figure 3(102f) and column 7, lines 33-38 of Chino).

Katsuo in view of Motoyama is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a motion analysis function to time-based media data, as taught by Chino. The suggestion for doing so would have been that detection of a user's motion and gestures is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama to obtain the invention as specified in claim 106.

23. Claims 88-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Kametani (US Patent 5,091,948).

Regarding claim 88: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a speaker segmentation function to the time-based media data.

Kametani discloses applying a speaker segmentation function to time-based media data (figure 3d and column 5, lines 5–9 and lines 29-33 of Kametani).

Katsuo in view of Motoyama is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker segmentation function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker segmentation function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama to obtain the invention as specified in claim 88.

Further regarding claims 89/81 and 89/88: Kametani discloses applying a speaker recognition function to said time-based media data (column 5, lines 29-35 of Kametani).

24. Claims 92-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Halverson (US Patent Application Publication 2002/0101513 A1).

Regarding claim 92: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a speech recognition function to said time-based media data.

Halverson discloses applying a speech recognition function to time-based media data (para. 24, lines 2-5 and para. 25, lines 21-23 of Halverson).

Katsuo in view of Motoyama is combinable with Halverson because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speech recognition function, as taught by Halverson. The motivation for doing so would have been that speech is a useful and natural form of human input (para. 25, lines 11–14 of Halverson). Therefore, it would have been obvious to combine Halverson with Katsuo in view of Motoyama to obtain the invention as specified in claim 92.

Further regarding claim 93: Halverson discloses applying a profile analysis function to the time-based media data (para. 23, lines 4-7 of Halverson).

25. Claims 94 and 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Halverson (US Patent Application Publication 2002/0101513 A1), and Chino (US Patent 6,118,888).

Regarding claim 94: Katsuo in view of Motoyama and Halverson does not disclose expressly that said multimedia function includes applying audio event detection to the time-based media data.

Chino discloses applying audio event detection to the time-based media data (column 14, lines 8-18 of Chino). The system detects when audio data is intended to be input by the user, while any other noise is ignored by the system (column 14, lines 8-18 of Chino).

Katsuo in view of Motoyama and Halverson is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to detect audio data events, as taught by Chino. The motivation for doing so would have been to prevent unintended and erroneous audio input (column 14, lines 10-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Halverson to obtain the invention as specified in claim 94.

Regarding claim 97: Katsuo in view of Motoyama and Halverson does not disclose expressly that said multimedia function includes applying a sound source localization function to the time-based media data.

Chino discloses applying a sound source localization function to time-based media data (column 13, lines 5-14 of Chino). By using the gaze object detection portion of the multi-modal interface apparatus, the audio sound source localization is determined.

Katsuo in view of Motoyama and Halverson is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a sound source localization function to the time-based media data, as taught by Chino. The motivation for doing so would have been to ensure that user input is intended, and the user is not speaking to someone else (column 1, lines 52-58 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Halverson to obtain the invention as specified in claim 97.

26. Claims 95-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Halverson (US Patent Application Publication 2002/0101513 A1), Chino (US Patent 6,118,888), and Kametani (US Patent 5,091,948).

Regarding claim 95: Katsuo in view of Motoyama, Halverson and Chino does not disclose expressly that said multimedia function includes applying a speaker recognition function to the time-based media data.

Kametani discloses applying a speaker recognition function to said time-based media data (column 5, lines 29-35 of Kametani).

Katsuo in view of Motoyama, Halverson and Chino is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker recognition function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker recognition function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama, Poon, Halverson and Chino to obtain the invention as specified in claim 95.

Regarding claim 96: Katsuo in view of Motoyama, Halverson and Chino does not disclose expressly that said multimedia function includes applying a speaker segmentation function to the time-based media data.

Kametani discloses applying a speaker segmentation function to time-based media data (figure 3d and column 5, lines 5–9 and lines 29-33 of Kametani).

Katsuo in view of Motoyama, Halverson and Chino is combinable with Kametani because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a speaker segmentation function to said time-based media data, as taught by Kametani. The motivation for doing so would have been that using a speaker segmentation function extracts parameters that uniquely identify a speaker, thus improving the level of speaker discrimination (column 5, lines 29-35 of Kametani). Therefore, it would have been obvious to combine Kametani with Katsuo in view of Motoyama, Halverson and Chino to obtain the invention as specified in claim 96.

27. Claims 100 and 108-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Krumm (US Patent 6,611,622 B1).

Regarding claim 100: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a color histogram analysis function to said time-based media data.

Krumm discloses applying a color histogram analysis function to time-based media data (figure 2(202) and column 8, lines 46-47 of Krumm).

Katsuo in view of Motoyama is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a color histogram analysis function to the time-based media data, as taught by Krumm. The motivation for doing so would have been to better identify people or objects in scenes generated subsequent to a model scene (column 8, lines 53-58 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama to obtain the invention as specified in claim 100.

Regarding claim 108: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a foreground/background segmentation function to said time-based media data.

Krumm discloses applying a foreground/background segmentation function to time-based media data (column 10, lines 13-15 of Krumm).

Katsuo in view of Motoyama is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a foreground/background segmentation function to the time-based media data, as taught by Krumm. The motivation for doing so would have been that the foreground segment is needed to further segment for the purpose of identifying people and objects in an image (column 10, lines 15-18 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama to obtain the invention as specified in claim 108.

Regarding claim 109: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a scene segmentation function to said time-based media data.

Krumm discloses applying a scene segmentation function to time-based media data (column 10, lines 15-18 of Krumm).

Katsuo in view of Motoyama is combinable with Krumm because they are from the same field of endeavor, namely control and processing of time-based media data. At the time of the invention, it would

have been obvious to a person of ordinary skill in the art to apply a scene segmentation function to the time-based media data, as taught by Krumm. The motivation for doing so would have been that segmenting the foreground scene is needed to identify people and objects in an image (column 10, lines 15-18 of Krumm). Therefore, it would have been obvious to combine Krumm with Katsuo in view of Motoyama to obtain the invention as specified in claim 109.

28. Claim 107/81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1) and Kim (US Patent 6,594,377 B1).

Regarding claim 107/81: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a distance estimation function to said time-based media data.

Kim discloses applying a distance estimation to image media data (column 3, lines 33-36 of Kim).

Katsuo in view of Motoyama is combinable with Kim because they are from the same field of endeavor, namely the control and processing of media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply distance estimation, as taught by Kim, to the time-based media data taught by Motoyama. The motivation for doing so would have been to determine if the user, or a relevant part of the user, is within the required operational range (column 4, lines 28-34 of Kim). Therefore, it would have been obvious to combine Kim with Katsuo in view of Motoyama to obtain the invention as specified in claim 107/81.

29. Claim 107/106 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Chino (US Patent 6,118,888), and Kim (US Patent 6,594,377 B1).

Regarding claim 107/106: Katsuo in view of Motoyama and Chino does not disclose expressly that said multimedia function includes applying a distance estimation function to said time-based media data.

Kim discloses applying a distance estimation to image media data (column 3, lines 33-36 of Kim).

Katsuo in view of Motoyama and Chino is combinable with Kim because they are from the same field of endeavor, namely the control and processing of media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply distance estimation, as taught by Kim,

to the time-based media data taught by Motoyama. The motivation for doing so would have been to determine if the user, or a relevant part of the user, is within the required operational range (column 4, lines 28-34 of Kim). Therefore, it would have been obvious to combine Kim with Katsuo in view of Motoyama and Chino to obtain the invention as specified in claim 107/106.

30. Claims 110-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Krumm (US Patent 6,611,622 B1), and Chino (US Patent 6,118,888).

Regarding claim 110: Katsuo in view of Motoyama and Krumm does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Krumm to obtain the invention as specified in claim 110.

Regarding claim 111: Katsuo in view of Motoyama and Krumm does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Krumm to obtain the invention as specified in claim 111.

Regarding claim 112: Katsuo in view of Motoyama and Krumm does not disclose expressly that the multimedia function includes applying an optical character recognition function to the time-based media data.

Chino discloses applying an optical character recognition function to time-based media data (figure 3(102j) and column 7, lines 14–18 of Chino).

Katsuo in view of Motoyama and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply an optical character recognition function to time-based media data, as taught by Chino. The suggestion for doing so would have been that character recognition from an electronic pen is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Krumm to obtain the invention as specified in claim 112.

Regarding claim 113: Katsuo in view of Motoyama and Krumm does not disclose expressly that said multimedia function includes applying a face recognition function to the time-based media data.

Chino discloses applying a face recognition function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face recognition function to time-based media data, as taught by Chino. The motivation for doing so would have been to determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Krumm to obtain the invention as specified in claim 113.

Regarding claim 114: Katsuo in view of Motoyama and Krumm does not disclose expressly that said multimedia function includes applying a face detection function to the time-based media data.

Chino discloses applying a face detection function to time-based media data (figure 20(406) and column 24, lines 25–27 of Chino).

Katsuo in view of Motoyama and Krumm is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a face detection function to time-based media data, as taught by Chino. The motivation for doing so would have been to

determine which particular user corresponds to the current user by recognition of the current user's face (column 26, lines 20-22 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Krumm to obtain the invention as specified in claim 114.

31. Claims 115 and 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), and Gerber (US Patent 5,568,406).

Regarding claim 115: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying an automobile recognition function to said time-based media data.

Gerber discloses applying an automobile recognition function to time-based media data (column 8, lines 42-45 of Gerber).

Katsuo in view of Motoyama is combinable with Gerber because they are from the same field of endeavor, namely the control and processing of time-based image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply an automobile recognition function to said time-based media data, as taught by Gerber. The motivation for doing so would have been to determine from the time-based media data whether or not the automobile in the time-based media data is stolen (column 8, lines 45-46 of Gerber). Therefore, it would have been obvious to combine Gerber with Katsuo in view of Motoyama to obtain the invention as specified in claim 115.

Regarding claim 117: Katsuo in view of Motoyama does not disclose expressly that said multimedia function includes applying a license plate recognition function to said time-based media data.

Gerber discloses applying a license plate recognition function to time-based media data (column 3, lines 42-47 and lines 63-64 of Gerber).

Katsuo in view of Motoyama is combinable with Gerber because they are from the same field of endeavor, namely the control and processing of time-based image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a license plate recognition function to said time-based media data, as taught by Gerber. The motivation for doing so would have been to determine from the time-based media data whether or not the automobile in the time-based media data is stolen (column 1, line 66 to column 2, line 2 of Gerber). Therefore, it would have been obvious to combine Gerber with Katsuo in view of Motoyama to obtain the invention as specified in claim 117.

32. Claim 116 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuo (US Patent 5,721,883) in view of Motoyama (US Patent 6,476,793 B1), Gerber (US Patent 5,568,406), and Chino (US Patent 6,118,888).

Regarding claim 116: Katsuo in view of Motoyama and Gerber does not disclose expressly that the multimedia function includes applying a motion analysis function to the time-based media data.

Chino discloses applying a motion analysis function to time-based media data (figure 3(102f) and column 7, lines 33-38 of Chino).

Katsuo in view of Motoyama and Gerber is combinable with Chino because they are from the same field of endeavor, namely the control and processing of time-based media data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply a motion analysis function to time-based media data, as taught by Chino. The suggestion for doing so would have been that detection of a user's motion and gestures is simply another useful electronic means to input data into a computerized system (figure 3 and column 7, lines 2-11 of Chino). Therefore, it would have been obvious to combine Chino with Katsuo in view of Motoyama and Gerber to obtain the invention as specified in claim 116.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Arndt et al., US Patent 7,023,459 B2, Patented 04 April 2006, Filed 01 March 2001.

b. Impink, Jr. et al., US Patent 7,000,193 B1, Patented 14 February 2006, Filed 26 April 2002.

c. Muratori et al., US Patent 6,611,276 B1, Patented 26 August 2003, Filed 31 August 1999.

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JAT
14 July 2007

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